

REMARKS

35 U.S.C. §112

The examiner rejected Claims 1-21 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner repeats the grounds of rejection as stating in the earlier office action. Applicant's response here supplements that prior response.

The examiner argues: "... However it is not clear at what step trading securities takes place or what means in these claims result in trading securities. Hence the scope of the claims is difficult to ascertain. Appropriate clarification/correction is required. The dependent claims are rejected by way of dependency on a rejected independent claim." The examiner requested that Applicant clarify these features. Applicant did so in its remarks in the prior reply. The examiner improperly ignored those remarks because the examiner maintained the rejection and did not address why Applicant's clarification was insufficient. For the reasons of record, Applicant contends that the claims properly define the subject matter of the invention. The examiner is merely engaging in tactics to thwart Applicant from obtaining subject matter, which distinguishes over the prior art, and that is not encumbered with unnecessary limitations.

The examiner argues that: "Claims 1-11 are also rejected because it is not clear as to what which statutory class it belongs." The examiner goes on to argue that: "... A claim is considered indefinite if it does not apprise those skilled in the art of its scope. *Amgen, Inc. v. Chugai Pharm. Co., 927 F.2d 1200, 1217 (Fed. Cir. 1991)*." The examiner is again in error. Nevertheless, in order to advance prosecution, applicant has amended claim 1 to call for a "system." Claims 1-11 are directed to a single statutory class a machine, i.e., a system.

The examiner argues that: *Claims 1-21 recite the limitation "a liability order" and "non-liability order". Also it is not clear what the applicants mean by these limitations. It is also not clear how these are determined making the scope of the claims difficult to ascertain.* Applicant has defined these terms in the specification. One of skill in the art could consult the specification if in fact such person could not understand the difference between liability and non-liability orders, without importing into the claims limitations from the specification.

The examiner argues that: **Claims 9-10, 14-15 and 19-20 recite "at least one normal unit of trading in excess of an attributable quote/order". It is not clear what the applicants mean by "attributable quote/order" and "at least one normal unit of trading in excess of an attributable quote/order".** Applicant has defined these terms in the specification. One of skill in the art could consult the specification if in fact such person could not understand these terms without importing into the claims limitations from the specification.

The examiner argues that: **Claims 1-21 are also rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements."** The examiner goes not to argue that: **"...The omitted elements are the elements relating a directed order to a liability or non-liability order."** Again the specification is clear on these terms and one skilled in the art could consult the specification without importing into the claims limitations from the specification.

The examiner argues that: **"Claims 1-11 are also rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, ... These claims recite "a client computer station" and "a server computer system". However it is not clear how these two elements are structurally related to make the system operable."**

Claim 1 recites: a client computer station ... a server computer system receiving the directed order ... . Claim 1 recites the necessary cooperation to make the claim structurally related in that it requires the server to receive the directed order that was entered by the client system.

#### 35 U.S.C. §101

The examiner maintained the rejection of Claims 1-21 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The examiner stated:

35 USC 101 requires that in order to be patentable the invention must be a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.

Claims 1-21 are drawn to "a system, a method and a computer program product for trading of securities the system comprising: a client computer station for entering a directed order to begin a negotiation process with a selected quoting market participant; a server computer system receiving the directed order, the-server system delivering the order, as a liability or non-liability order in accordance with how the selected quoting market participant chooses to receive directed orders". As such the claimed invention is directed to a judicial exception to 35 U.S.C. 101 (i.e., an abstract idea, natural phenomenon, or law of nature) and is not directed to a practical application of such judicial exception because the claims do not require any physical transformation and the invention as claimed does not produce a useful, concrete, and tangible result.

The Court of Appeals for the Federal Circuit issued opinions in *State Street Banc & Trust Co. V. Signature Financial Group Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998) and *AT&T Corp. V. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999).

These decisions explained that, to be eligible for patent protection, the claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601 02. To satisfy section 101 requirements, the claim must be for a practical application of the § 101 judicial exception, which can be identified in various ways: (a) The claimed invention "transforms" an article or physical object to a different state or thing, (b) The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. See MPEP § 2107. The claimed invention does not meet this requirement. The last step of delivering the order does not imply trading and hence the utility is not specific, substantial and credible.

The tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application"). It is not clear as to what real world result is produced by implementing the claimed invention. The last step of delivering the order does not imply trading.

For an invention to produce a "concrete" result, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. In re *Swartz*, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101). The opposite of "concrete" is unrepeatable or unpredictable. The steps of the claimed invention are not clear and specific enough to guarantee that the same results will be produced for a given set of inputs. The limitation "in accordance with how the selected quoting market participant chooses to receive directed orders" is not clear and specific enough to guarantee that the same results will be produced for a given set of inputs. It is not clear as to what is the concrete result of the claimed invention. In view of the ambiguities identified in the 35 U.S.C. 112, second paragraph rejections above, it is not clear if the results of the claimed invention are repeatable or predictable.

There is no useful, tangible and concrete result produced from implementing the steps of the claimed invention. The dependent claims are rejected for the same reason and by way of dependency on a rejected independent claim.

Independent 1 is directed to a system for trading of securities including a client computer station and a server computer system. Independent claim 12 is directed to "A computer implemented method for trading securities in an electronic market ... receiving by a computer system ... and delivering by the computer system ..." Claim 17 as originally presented is directed to: "A computer program product residing on a computer readable media for trading securities in an electronic market comprises instructions for causing a computer to ..." .

The examiner reliance on *State Street Bank & Trust Co. V. Signature Financial Group Inc.*, 149 F. 3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998) and *AT&T Corp. V. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999) is misplaced. State

Street does not support the position that: "These decisions explained that, to be eligible for patent protection, the claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." " *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601 02."

In *State Street*, the Federal Circuit held that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. The Federal Circuit reasoned that the Supreme Court acknowledged that Congress intended 35 U.S.C. 101 to extend to "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) to give full effect to Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in 101. *State Street* 33 F.3d at 1373.

The examiner's conclusion that "There is no useful, concrete and tangible result produced from implementing the steps of the claimed invention. The dependent claims are rejected for the same reason and by way of dependency on a rejected independent claim.", is clearly unsupported by the reasoning and rationale expressed by the Federal Circuit in *State Street*.

Indeed, the Fed Cir. in ATT expressly observed that: "A mathematical formula alone, sometimes referred to as a mathematical algorithm, viewed in the abstract, is considered unpatentable subject matter. (citations omitted)" The court also noted that

This court recently pointed out that any step-by-step process, be it electronic, chemical, or mechanical, involves an "algorithm" in the broad sense of the term. *See State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1374-75, 47 USPQ2d 1596, 1602 (Fed.Cir.1998), cert. denied, 525 U.S. 1093, 119 S.Ct. 851, 142 L.Ed.2d 704 (1999). Because § 101 includes processes as a category of patentable subject matter, the judicially-defined proscription against patenting of a "mathematical algorithm," to the extent such a proscription still exists, is narrowly limited to mathematical algorithms in the abstract. *See id.; see also Benson*, 409 U.S. at 65, 93 S.Ct. 253 (describing a mathematical algorithm as a "procedure for solving a given type of mathematical problem").

The court went on to observe that:

Since the process of manipulation of numbers is a fundamental part of computer technology, we have had to reexamine the rules that govern the patentability of such technology. The sea-changes in both law and technology stand as a testament to the ability of law to adapt to new and innovative concepts, while remaining true to basic principles.

In *AT&T*, the Federal Circuit noted that: "The notion of "physical transformation" can be misunderstood. In the first place, it is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application." Applicant contends that as in *State Street*, which produced a final share price, as the concrete result, here to the extent that is a requirement, claim 1 produces the concrete result of a server computer system delivering a directed order as either a liability or non-liability order. This is the useful, concrete and tangible result, as required by *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368, at 1373, 47 USPQ2d at 1601-02. Delivery of an order according to the claim possesses sufficient "real world" value for which patent protection should be granted.

In claim 1, for example, the claimed arrangement is embodied as computer hardware with the computers functioning to accomplish the claimed result. Accordingly, claim 1, *per se*, is not directed to an abstract idea or concept. (See *Brenner v. Manson*, 383 U.S. 51 9, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1 197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993).

The examiner again fails to address why the machine limitations in each of these claims fails to satisfy the reasoning of *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601 and *In re Alappat* 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994) or *Warmerdam*.

The Examiner's conclusion that the claims are directed to abstract ideas is not supported by the guidance expressed by the Federal Circuit in *In re Warmerdam*, 33 F.3d 1354, 31 U.S.P.Q.2d 1754 (Fed. Cir. 1994), as interpreted by *AT&T Corp v. Excel Communications, Inc. et al.* 72 F.3d 1352, 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999).

In *Warmerdam*, the court found claims 1-4 and 6 were directed to a process that simply manipulated "abstract ideas" or "natural phenomena. In contrast, claim 5 was found statutory.

Claims 1 and 5 are reproduced below:

1. A method for generating a data structure which represents the shape of [sic] physical object in a position and/or motion control machine as a hierarchy of bubbles, comprising the steps of:

first locating the medial axis of the object and  
then creating a hierarchy of bubbles on the medial axis.

5. A machine having a memory which contains data representing a bubble hierarchy generated by the method of any of Claims 1 through 4.

In *Warmerdam*, the court held that claims 1-4 and 6 were directed to non-statutory subject matter, whereas claim 5 was clearly directed to statutory subject matter, even though it depended on claims 1-4, because it was directed to a machine. *Warmerdam*, 33 F.3d at 1360.

In accord with the reasoning in *Warmerdam* is *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994) in which a data structure on a computer medium was expressly found to recite patentable subject matter by the Board and acknowledged by the Federal Circuit in rendering its holding that a printed matter rejection did not apply to data structures, as claimed in *Lowry*.

Moreover, the examiner conclusion is unsupported by any reasoning or rationale. It is a mere naked conclusion. While claim 12, as presented merely recited an electronic market, the examiner ignored that the other claims recited systems and an article of manufacture namely a computer readable medium. The burden is on the examiner to show that the claims do not produce the "useful, concrete and tangible result." The examiner has not satisfied this burden.

Applicant contends therefore, that clearly the claims as now presented are not directed to an abstract idea without practical application since each of the claims recite structure, computers, computer implemented steps or a computer program product on a computer readable medium to produce a "useful, concrete and tangible result."

Thus, the claims are not directed to abstractions, but rather are limited to practical applications and therefore proper under 35 U.S.C. §101.

35 U.S.C. § 103

The examiner rejected Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over NASD Rulemaking Reference (Reference AV in IDS of October 19, 2007)

The examiner argued that:

Claims 1, 12 and 17, discloses a method for trading of securities comprising receiving by a computer system a directed order to begin a negotiation process with a particular quoting market participant (See Reference AV Pages 10-11); and delivering by the computer system the order, as liability or non-liability order in accordance with how the quoting market participant chooses to receive directed orders (See Reference AV Pages 12-43). The limitation "to begin a negotiation process with a particular quoting market participant" is interpreted as an intended use limitation. A system for trading of securities with a client computer station for entering a directed order and a server computer system for receiving the directed order, the server system delivering the order and a computer program product for trading of securities by performing the steps of the claimed method are implied by the disclosure. In the alternative, system for trading of securities with a client computer station for entering an order and a server computer system for receiving and delivering the order and a computer program product for trading of securities by performing the steps of the claimed method are old and well known in the electronic trading of securities.

Claim 1 includes the features of: "... a client computer station for entering a directed order ... and a server computer system receiving the directed order, the server system delivering the order, as a liability or non-liability order in accordance with how the selected quoting market participant chooses to receive directed orders.

NASD describes an earlier version of so called directed orders. However NASD neither describes nor suggests the feature "the server system delivering the order, as a liability or non-liability order in accordance with how the selected quoting market participant chooses to receive directed orders."

Rather, NASD describes:

All directed orders that are delivered for a response (as opposed to being automatically executed), will be designated by the System as "liability" or "non-liability" orders when delivered. A liability order is an order that a broker-dealer is required to respond to consistent with the obligations imposed by the SEC and NASD Firm Quote Rules.<sup>38</sup> For example, if Market Maker A is quoting 20 bid for 1,000 shares, a directed order that is sent to MMA to sell 1,000 shares at 20 is a liability order. In other words, MMA must respond consistent with the Firm Quote Rule. If MMA is quoting 20 bid for 1,000 shares, and the order entry firm directs an order to sell 20,000 shares at 20 1/16th to MMA, such an order would be a non-liability order for which MMA has no responsibility to respond. MMA could, however, choose to accept the order at the higher price. MMA also could do nothing with such order and at the end of 32 seconds the order would time out and be

returned to the order entry firm. If the directed order sent to MMA were priced to sell at 20 for 20,000 shares, MMA would have Firm Quote Rule liability for 1,000 shares. (footnote omitted)

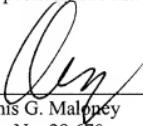
Thus, under NASD, MMA must accept all directed orders as liability orders unless the directed order has a price that is in the example used greater than MMA bid quote. There is no participant selective protocol on how the orders are handled by the system. In contrast, claim 1 requires that the server system delivers the order, as a liability or non-liability order in accordance with how the selected quoting market participant chooses to receive directed orders. This logic, executed by the server system, is neither described nor suggested by NASD.

Claims 2-11 are allowable at least for the reasons discussed in claim 1. Claims 13 and 18 are allowable for analogous reasons given in claim 1 and dependent claims 14-17 and 19-21 are allowable at least for the reasons that they depend from the respective base claims.

Please charge the Petition for Extension of Time fee of \$120 and please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 6/20/09

  
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